Organizational structure analysis of the Patient Safety Center in hospitals of the Sentinel Network

Análise da estrutura organizacional do Núcleo de Segurança do Paciente dos hospitais da Rede Sentinela

Análisis de la estructura organizacional del Núcleo de Seguridad del Paciente de los hospitales de la Red Sentinela

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ABSTRACT

Objective: To analyze the organizational structure of the Patient Safety Centers.

Method: This is an exploratory and descriptive study with 12 coordinators of the Patient Safety Center. Data were collected using a structured and validated questionnaire with two evaluation domains based on Donabedian's triad of structure and process.

Results: The Patient Safety Center was implemented in the services with the participation and support of senior management. Human resources and materials are shared with other sectors. Points for improvement were identified regarding the center's activities, sentinel event prevention, risk management strategies, and professional training.

Conclusion: Strategies are needed to ensure a non-punitive culture, event notification, sentinel event prevention, core activities, risk management, and professional training.

Keywords: Risk management. Patient safety. Hospitals. Nursing. Organization and administration.

RESUMO

Objetivo: Analisar a estrutura organizacional dos Núcleos de Segurança do Paciente.

Método: Exploratório e descritivo, composto por 12 coordenadores de Núcleo de Segurança do Paciente de hospitais da Rede Sentinela do município de São Paulo, num período de março a junho de 2016. Aplicado questionário estruturado e validado quanto à estrutura e processo. Realizado análise descritiva dos resultados e calculado o número e porcentagem das respostas.

Resultados: Constatou-se que o Núcleo de Segurança do Paciente foi implantado nos serviços e teve a participação e apoio da alta direção. Os recursos humanos e materiais foram compartilhados com outros setores. Foi identificado pontos de melhorias quanto às atividades do Núcleo, prevenção de evento sentinela, estratégias para gestão de risco e capacitação dos profissionais.

Conclusão: Há necessidade de desenvolver estratégias para cultura não punitiva, notificação dos eventos, prevenção de eventos sentinela, para principais atividades do núcleo, gestão de risco e capacitação dos profissionais.

Palavras-chave: Gestão de riscos. Segurança do paciente. Hospitais. Enfermagem. Organização e administração.

RESUMEN

Objetivo: Analizar la estructura organizacional de los Núcleos de Seguridad del Paciente.

Método: Exploratorio y descriptivo, compuesto por 12 coordinadores de Núcleo de Seguridad del Paciente de hospitales de la Red Sentinela del municipio de São Paulo, en un período de marzo a junio de 2016. Aplicado cuestionario estructurado y validado en cuanto a la estructura y proceso. Realizado análisis descriptivo de los resultados y calculado el número y porcentaje de las respuestas.

Resultados: Se constató que el Núcleo de Seguridad del Paciente fue implantado en los servicios y tuvo la participación y apoyo de la alta dirección. Los recursos humanos y materiales se compartieron con otros sectores. Se identificaron puntos de mejora en cuanto a las actividades del Núcleo, prevención de evento sentinela, estrategias para gestión de riesgo y capacitación de los profesionales.

Conclusión: Hay necesidad de desarrollar estrategias para la cultura no punitiva, notificación de los eventos, prevención de eventos sentinela, para principales actividades del núcleo, gestión de riesgo y capacitación de los profesionales.

Palabras clave: Gestión de riesgos. Seguridad del paciente. Hospitales. Enfermería. Organización y administración.

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■ INTRODUCTION

Patient safety has triggered wide discussion worldwide. In 2002, the Brazilian National Health Inspection Agency (*Agência Nacional de Vigilância Sanitária*, ANVISA) created the Sentinel Network deployment project to notify the National Health Inspection Service (*Serviço Nacional de Vigilância Sanitária*, SNVS) of faulty products and provide information needed for health inspections in hospitals[1]. This project served as a basis to implement risk management in Brazilian healthcare institutions, encourage the culture of notification, and improve the quality of health services[1-2]. Risk management is defined as the systematic application of security policies and action strategies to identify, notify, analyze, mitigate, and control risk and adverse events (AE) that can affect patients, workers, the environment, and the institution[3].

In 2013, the National Patient Safety Program (PNSP) was established in Ordinance No. 529 to qualify the care provided in all health institutions in Brazil[4]. Patient safety is the absence of avoidable harm that can affect patients in care[3]. The program highlights the importance of risk management - which should focus on quality and patient safety - based on principles and guidelines that ensure a safety culture and support the structuring and integration of care processes with organizational processes. Moreover, the PNPS guides the implementation of patient safety centers (NSP) and promotes patient safety programs in the different areas of care, organization, and management of health services[2-4].

Resolution 36 of the Collegiate Board (RDC) of 2013 instituted the mandatory implementation of patient safety centers in public, private, philanthropic, and teaching health care institutions, among others, and established guidelines for their operation. The centers are responsible for overseeing the patient safety plan (PSP), document strategies and actions for risk management, and assume its role in promoting prevention, control, and mitigation of EA. Thus, patient safety centers aim to integrate the different instances that work with risk at an institution and help articulate the work and information to ensure safe and quality care for those who need it[3]. Implementing a patient safety center (NSP), however, can be challenging for the institution; only 3572 (52.6%) centers have been implemented since June 2018 in a universe of 6794 hospitals. Of these centers, 2253 (63.1%) have never submitted an AE to ANVISA[5-6]. This data indicated the NSP are not functioning as they should.

Few publications address the implementation of NSPs in health care institutions. One study, for example, discusses the experience of one health institution in the state of Paraíba after implementing its NSP. The authors of the study present AE prevention actions, such as the mandatory use of patient ID bracelets, identifying high inspection medication, and effective team communication, but they fail to present direct care outcomes[7]. The absence of results indicates a knowledge gap regarding quality and safety management in health services that needs to be explored. Consequently, we conducted this study to analyze the organizational structure of the NSPs at the Sentinel Network hospitals in the city of São Paulo.

■ METHOD

This is an exploratory and descriptive study extracted from the master's thesis entitled *Análise da estrutura organizacional dos Núcleos de Segurança do Paciente em instituições de saúde da Rede Sentinela do Município de São Paulo*, presented at the graduate nursing program (*Programa de Pós-Graduação em Enfermagem*) of the Federal University of Sao Paulo in 2017[8].

The population was composed of 27 coordinators of the NSPs at hospitals of the Sentinel Network in the city of São Paulo. Of these centers, 15 agreed to participate in the study but 12 (44.4%) questionnaires were completed and returned, composing the study sample. The inclusion criterion was coordinators of the patient safety centers, with a degree in any health-related field (pharmacy, medicine, and nursing).

The instrument was subjected to two validation processes. First, the instrument was validated for clarity and pertinence by nine nurses from hospital services and a private and public university, with a consensus of over 70%. Secondly, the content was validated for reliability by 12 NSP coordinator, resulting in a Cronbach's alpha 0.857, considered of high reliability[9]. The first step occurred from 01 May to 30 June 2015 and the second step occurred from 01 March to 30 June 2016.

The instrument consists of six evaluation topics presented in two domains: structure and process. Topic I is Human and material resources, with seven items. The process domain contains the following topics: II. Implementation of the NSP, with seven items; III. Core activities of the NSP, with 13 items; IV. Guidelines and prevention of sentinel event, with seven items; V. Strategies and actions for risk management, with 17 items; and, VI. Professional training, with 14 items. Together with the instrument, the participants were asked to provide data related to the institution, coordinator, and center, with nine items.

The respondents used to a Likert scale to select their responses. In topic I, the alternatives were "**Does have**", "**Intends to have**", "**Does not intend to have**", and "**Uses another sector/Shares with another sector**". For topics

II, III, IV, and V, the options were "**Fully deployed**", "**Partially deployed**", "**Plans to deploy**", "**Will not deploy**", and "**Does not apply**". For topic VI, the possible responses were "**Completed**", "**Partially completed**", "**Plans to complete**", "**Will not complete**", and "**Does not apply**".

The coordinators of the NSPs were contacted by email, in which they received an invitation letter, information about the study, and a guarantee of anonymity. After accepting, they were sent another email message with the instrument and guidelines for answering and submitting the questionnaire. Data were collected concurrently with the second instrument validation stage, from 01 March to 30 June 2016. The results were analyzed descriptively. Each of the 12 NSP was considered as a sampling unit and the number and percentage of the answers were calculated for each item.

We observed all the ethical procedures for research in Brazil and all the coordinators signed an informed consent statement. The certificate for ethical appreciation (CAAE) was filed under number 53112616.8.0000.5505.

◼ RESULTS

The sample consisted of 12 coordinators; six (50%) nurses, four (34%) physicians, and one (8%) pharmacist. Of these coordinators, four (34%) were specialists, four (34%) had a master's degree, and three (25%) had a Ph.D. Once coordinator (8%) did not inform professional category or field of specialty. The average time since graduation was 31 years. Of the institutions, 11 (92%) were public hospitals and one (8%) was a philanthropic private hospital. With regard to classification, seven (58%) were general hospitals and five (42%) were specialized hospitals. All the coordinators stated that the NSPs were linked to the senior management of the hospital. The coordinators were exclusively dedicated to working at three of the centers (25%). In the others, the coordinators also worked with the hospital's infection control committee (ICC), continuing education, and quality, among other activities. The respondents of eight institutions (67%) stated they were free to implement the patient safety program (PSP). The multidisciplinary team participated in 100% of the NSP and the members had experience and training in patient safety.

In the structure domain – human resources and materials - four (33%) of the NSPs had a dedicated area; six (50%) had computer and printer; five (42%) had a telephone; eight (67%) had internet; and seven (58%) had office supplies. A portion of these centers shared these resources with other sectors of the institution. In terms of human resources, however, only three (25%) centers had people dedicated to the sector, some did not plan on having a dedicated staff, and four (33%) used the staff of another sector.

Table 1 shows the results of the process domain – implementation of the patient safety center - in which the NSP is stated as "**Fully deployed**" in nine (75%) institutions. Other items that were reported as being "**Fully deployed**" are "AE prevention strategies linked to other managers", in five (50%) institutions; "Senior management participates in and supports safety culture strategies", in nine (75%) institutions; and "Strategies and actions to avoid individual accountability" and "Strategies for risk and event notification included in the PSP", in six (50%) institutions. The items marked as "**Partially deployed**" shown in the table are "Use of quality tools to manage AE risk" and "Strategies for disclosing outcomes to the teams", in six (50%) institutions.

Table 1 - Presentation of the process domain: implementation of the patient safety center. São Paulo, SP, Brazil, 2016 (n = 12)

Items	FD[*] n (%)	PD[†] n (%)	PTD[‡] n (%)	NPD[§] n (%)	NA[‖] n (%)
The Patient Safety Unit is structured.	9 (75)	1 (8)			
Strategies for AE prevention linked to other managers.	6 (50)	6 (50)			
Senior management participates in and supports safety culture strategies	9 (75)	3 (25)			
Strategies and actions to avoid individual accountability.	6 (50)	5 (42)	1 (8)		
Use of quality tools to manage AE risk.	5 (42)	6 (50)			
Strategies for risk and event notification included in the Patient Safety Plan	6 (50)	5 (42)	1 (8)		
Strategies for disclosing outcomes to the teams.	4 (33)	6 (50)	2 (17)		

Source: Research data, 2016.
[*]Fully deployed; [†]Partially deployed; [‡]Plans to deploy; [§]Will not deploy; [‖]Does not apply.
N<12 = Not provided.

Table 2 shows the results of the process domain – core activities of the NSP. The items "Files notifications" and "Accompanies health inspection alerts" were "**Fully deployed**" in the surveyed institutions. In eight (67%) institutions, the "**Fully deployed**" items were "Identifies and evaluates existing AE in processes and procedures"; "Develops, deploys, divulges, and updates PSP"; "Establishes accident prevention barrier"; and "Analyzes and evaluates data on care-related incidents and AE". The item "Follows patient safety protocols and monitors indicators" was "**Fully deployed**" in seven (58%) institutions. The items

"Promotes risk management activities"; "Accompanies actions linked to the PSP"; and "Discloses AE and incident review results to management and workers" were "**Fully deployed**" in six (50%) institutions. The items "Develops, implements and supervises training programs in patient safety" and "Develops actions for multidisciplinary integration" were "**Partially deployed**" in eight (67%) and seven (58%) institutions, respectively. The item "Notifies AE to the SNVS" was "**Fully deployed**" in five (42%) institutions and marked as "**Plans to deploy**" in two institutions.

Table 2 - Presentation of the process domain: core activities of the patient safety center. São Paulo, SP, Brazil, 2016. (n = 12)

Items	FD[*] n (%)	PD[†] n (%)	PTD[‡] n (%)	NPD[§] n (%)	NA[‖] n (%)
Promotes activities for risk management.	6 (50)	6 (50)			
Develops actions for multidisciplinary integration.	5 (42)	7 (58)			
Identifies and evaluates adverse events in processes and procedures.	8 (67)	4 (33)			
Develops, deploys, publishes, and updates the patient safety plan.	8 (67)	4 (33)			
Accompanies actions linked to the patient safety plan.	6 (50)	6 (50)			
Follows patient safety protocols and monitors indicators.	7 (58)	5 (42)			
Establishes accident prevention barrier.	8 (67)	4 (33)			
Develops, implements, and supervises training programs in patient safety.	3 (25)	8 (67)	1 (8)		
Discloses AE and incident review results to management and workers.	6 (50)	4 (42)	1 (8)		
Notifies adverse events to the national health inspection service.	5 (42)	5 (42)	2 (16)		
Files notifications.	12 (100)				
Accompanies health inspection alerts and other risk notifications.	12 (100)				

Source: Research data, 2016.
[*]Fully deployed; [†]Partially deployed; [‡]Plans to deploy; [§]Will not deploy; [‖]Does not apply.
N<12 = Not provided.

Table 3 shows the results of the process domain: guidelines and prevention of sentinel event. The item "products and devices" was fully deployed in 10 (83%) institutions. The items "Surgical procedures" and "Environmental events" were "**Fully deployed**" in seven (58%) services. The items

"Patient protection"; "Care management"; and "Radiology events" were similarly reported by six (50%) institutions. The item "Potentially criminal events" was "**Partially deployed**" in three (25%) institutions and reported as "**Plans to deploy**" in four (33%) institutions.

Table 3 - Presentation of the process domain: guidelines and prevention of sentinel events. São Paulo, SP, Brazil, 2016 (n = 12)

Items	FD* n (%)	PD† n (%)	PTD‡ n (%)	NPD§ n (%)	NA‖ n (%)
Surgical procedures.	7 (58)	4 (34)			1 (8)
Products and devices.	10 (83)	2 (17)			
Patient protection.	6 (50)	4 (34)	1 (8)		1 (8)
Care management.	6 (50)	6 (50)			
Environmental events.	7 (58)	2 (17)	3 (25)		
Radiological events.	6 (50)	2 (17)	2 (17)	1 (8)	1 (8)
Potentially criminal events.	4 (34)	3 (25)	4 (33)	1 (8)	

Source: Research data, 2016.
*Fully deployed; †Partly deployed; ‡Plans to deploy; §Will not deploy; ‖Does not apply.
NA: Does not apply.

As for the presentation of the process domain: strategies and actions for risk management, as shown in Table 4, the item "Encourages hand hygiene" was "**Fully deployed**" in all the surveyed services. The "Prevention and control of adverse events, including care-related infection" was "**Fully deployed**" in 10 (83%) institutions, while "Patient identification"; "Pressure wound"; and "Fall prevention" were "**Fully deployed**" in nine (75%) institutions. Similarly, "Safety in prescribing, using, and administering blood products"; "Safety in prescribing, using and administering enteral and parenteral nutritional therapies"; and "Recording the use of orthotics and prosthetics, when used" were "**Fully deployed**" in eight (67%) institutions. The items "Safety in using equipment and materials" and "Implementing the protocols established by the Ministry of Health" were "**Fully deployed**" in six (50%) of the hospitals.

However, the item "Integrating the different risk management processes developed at the service" was "**Partially deployed**" in 10 (84%) services. Likewise, seven (58%) institutions partially deployed "Safety when prescribing, using and administering medication" and "Identifying, analyzing, monitoring, and communicating risk". The item "Safe surgery" was "**Partially deployed**" in six (50%) institutions and "Effective communication" in five (42) institutions. With regard to encouraging patients and their families to get involved in their own safety, six (50%) institutions had "**Plans to deploy**" this item.

Table 4 - Presentation of the process domain: strategies and actions for risk management. São Paulo, Brazil, SP, 2016. (n = 12)

Items	FD* n (%)	PD† n (%)	PTD‡ n (%)	NPD§ n (%)	NA‖ n (%)
Patient identification.	9 (75)	3 (25)			
Encourage hand hygiene.	12 (100)				
Safe surgery.	5 (42)	6 (50)			1 (8)
Safety when prescribing, using and administering medication.	4 (34)	7 (58)	1 (8)		
Safety in prescribing, using, and administering blood products.	8 (67)	3 (25)			
Encouraging patients and their families to get involved in their own safety.	2 (17)	4 (33)	6 (50)		
Effective communication.	3 (25)	5 (42)	4 (33)		
Pressure wound prevention.	9 (76)	1 (8)	1 (8)		1 (8)
Fall prevention.	9 (75)	3 (25)			
Safe use of equipment and materials.	6 (50)	5 (42)	1 (8)		
Identifying, analyzing, monitoring, and communicating risk.	5 (42)	7 (58)			

Integrating the different risk management processes developed at the service.	1 (8)	10 (84)	1 (8)	
Implementing the protocols established by the Ministry of Health.	6 (50)	6 (50)		
Safety in prescribing, using, and administering enteral and parenteral nutritional therapies.	8 (67)	1 (8)	2 (17)	1 (8)
Recording the use of orthotics and prosthetics, when used.	8 (67)	2 (17)	1 (8)	
Preventing and controlling adverse events, including care-related infection.	10 (83)	2 (17)		
Actions to encourage a safe environment.	3 (25)	7 (58)	2 (17)	

Source: Research data, 2016.
*Fully deployed; †Partially deployed; ‡Plans to deploy; §Will not deploy; ||Does not apply.
N<12 = Not provided.

The domain process: training health professionals is presented in Table 5. The item "Adverse event notification system" was "**Completed**" in 10 (84%) institutions and "Management and risk management" was "**Completed**" in eight (67%) institutions. Professional training for "Quality and patient safety"; "Types of care-related adverse events"; "Patient safety protocols"; and "Patient safety center" were "**Completed**" in six (50%) of the services. Only five (42%) institutions "**Completed**" training for the items "Safety culture"; "Patient safety plan"; and "AE investigation". Training for "Root cause analysis" was "**Partially completed**" in four (34%) institutions. The item "Basic principles in patient safety" was "**Partially completed**" in three (25%) institutions and another four (33%) had "**Plans to complete**" the item. The same occurred for the item "Strategies for improving quality and safety" in four (33%) and three (25%) institutions, respectively. However, four (33%) institutions "**Partially completed**" and have "**Plans to complete**" training for the item "Patient safety Indicators". Finally, four (33%) institutions had "**Plans to complete**" training for the item "Failure modes and effects analysis (FMEA)" and three (25%) stated that this item "**Will not be completed**".

Table 5 - Presentation of the process domain: training of health professionals. São Paulo, SP, Brazil, 2016 (n = 12)

Items	C* n (%)	PC† n (%)	PTC‡ n (%)	WNC§ n (%)	NA|| n (%)
Quality and patient safety	6 (50)	5 (42)	1 (8)		
Basic principles in patient safety.	5 (42)	3 (25)	4 (33)		
Types of care-related adverse events.	6 (50)	3 (25)	3 (25)		
Patient safety protocols.	6 (50)	3 (25)	3 (25)		
Patient safety indicators.	4 (34)	4 (33)	4 (33)		
Strategies for improving quality and safety.	5 (42)	4 (33)	3 (25)		
Safety culture.	5 (42)	3 (25)	3 (25)	1 (8)	
Patient safety center.	6 (50)	5 (42)		1 (8)	
Patient safety plan.	5 (42)	2 (17)	4 (33)	1 (8)	
Management and risk management.	8 (67)	3 (25)	1 (8)		
Adverse event notification system.	10 (84)	1 (8)	1 (8)		
Investigating adverse events.	5 (42)	5 (42)	1 (8)	1 (8)	
Root cause analysis.	3 (25)	4 (34)	3 (25)	1 (8)	1 (8)
Failure modes and effects analysis (FMEA)	2 (17)	2 (17)	4 (33)	3 (25)	1 (8)

Source: Research data, 2016.
*Completed; †Partially completed; ‡Plans to complete; §Will not complete; ||Does not apply.

■ DISCUSSION

This research shows that nurses coordinate the NSP in half the studied institutions. Multidisciplinary work in risk management is unrestricted, although studies show nurses are one of the most active workers in this sector[10]. Ideally, however, NSPs should be structured according to the prior experience of health workers in patient safety and quality and linked to the hospital infection control committee, risk management, nursing, quality, and other sectors[3]. Most of the surveyed institutions are public, so their ability to provide quality services to the general population is highly relevant. The national policy of hospital care established guidelines for organizing hospitals within the scope of the Unified Health System based on Ordinance 3390 of 2013[11]. The ordinance, in turn, establishes the responsibilities of the Ministry of Health (MS) in each federative state and in hospitals. For hospitals, it reinforces the mandatory implementation of the patient safety center (NSP) and the creation of a patient safety plan (PSP), proposed by the National Patient Safety Program (PNSP).

The NSPs are linked to senior management in all the surveyed. Senior management decisions provide the first and most important step for establishing the NSP and ensures the autonomy necessary to implement the goals of PNSP[3-4]. In most services, however, the professionals appointed to coordinate the center must add this new role to the functions they already perform. We could not identify whether this is a transitory stage to ensure compliance with the resolution since the exclusive dedication of workers is not mandatory[3]. Thus, the workers establish the patient safety programs and manage process enhancements as they structure and outline the services, such as quality and risk management offices, in institutional organization charts.

Human and material resources, such as computers and the internet, are essential for performing activities at the center, such as sending event notifications, although some respondents stated they share these resources with other sectors. One of the causes may be lack of experience with the activities that must be performed at the NSP, which should provide information and present the implemented improvements. Another possibility is the lack of information on the cost of a structured NSP. In a study conducted in northeastern Brazilian, the financial issue is pinpointed as one of the difficulties of establishing a center and, consequently, of developing its programs[7].

The results showed the importance of senior management's commitment to the implementation of the NSP. Without commitment, the service will not have the support and encouragement needed to ensure quality and patient safety. A study conducted in Spanish hospitals corroborates and highlights the importance of commitment for implementing a safety management model[12]. Moreover, it shows that promoting a safety culture is included in the PSP and supported by most managers of the health services. According to some studies, the organizational safety culture should be a concern of leaders so coordinators perceive its existence and they are not afraid to point out errors or weaknesses in the system; furthermore, it is one of the paths to organizational learning and people's involvement in improvement processes[13].

When analyzing event notifications, it is possible to know and structure prevention barriers and obtain information on incidence and opportunities for improvement. It is also necessary to introduce strategies to encourage AE notifications and prevent individual accountability[13], considering only half of the institutions developed these strategies.

As for the core activities of the NSP, AE notifications to the SNVS have not been fully deployed - an important factor that feeds the health inspection database. Of the 3572 registered NSP, only 1319 (36.9%) documented at least one notification to the SNVS[5]. Polls reveal that underreporting is linked to the fear of punishment, the overburdening of activities, and the lack of time to complete the notifications[2,13]. The coordinators may be afraid to apply the punishments to the institution or try to prevent outsiders from perceiving service quality as bad. These issues prevent workers and institutions from learning from their errors, analyzing these errors, and making improvements.

A sentinel event is an EA that is more serious for patients since it can result in loss of limb or organ function or even death[3]. The guidelines for preventing such events are either not fully deployed or under development in most institutions. Given the gravity of these events, it is worrying when a service cannot implement these guidelines, as observed for the prevention items of radiological and environmental events. A study stresses the importance of estimating mortality related to errors and adopting policies geared to notifying sentinel events. It also emphasizes the need for systematic audits and of engaging leaders in improvement processes[14].

The only risk management strategy identified in all the surveyed institutions was hand hygiene, which is also one of the six basic patient safety protocols published by the Ministry of Health[15]. We highlight the importance of adopting strategies for fall prevention, effective communication, safety in prescribing and using medication, among others, to optimize the prevention of AE and avoidable incidents in critical points of care. Studies show that prevention barriers and specific actions for each situation support

safe practices, although these strategies seem far from ideal in some institutions[16].

The item "Encourages patients and their families to engage in their own security" is still in the planning stage in half of the institutions. We stress the benefits of involving patients in their care decisions and of educating them to identify potentially harmful situations for their own safety. Firstly, however, the health team must be trained to encourage the participation of patients and their families and learn about educational methodologies that prepare patients to identify at-risk situations, thus improving the quality of care[17].

Teaching health workers the concepts that pervade quality and patient safety helps them understand the importance of these concepts, follow procedure, and practice safe care, and it strengthens team commitment. The strategies must focus on education and awareness regarding best practices and consolidating patient safety[18]. In this study, we observed an inclination toward this direction. According to some authors, health workers are generally trained in quality and patient safety after they graduate, suggesting the importance of including this subject in the academic syllabus when the students are still in training[19]. The process is still being developed in most institutions, which may be justified by the short time the NSPs have been operating, and indicates the evident benefits of proposing continuing patient safety programs.

■ CONCLUSION

This study provided insight into the organizational structure of 12 patient safety centers of the sentinel network in São Paulo, considering structure and process. We found that the human and material resources are not exclusively dedicated to the centers and they are shared with other sectors. The institutions have implemented patient safety centers and senior management supports these centers by creating strategies to establish the patient safety plan. In most cases, the multidisciplinary team has the autonomy to make decisions concerning the strategies that need to be created. Most of the institutions have fully implemented or partially implemented adverse event prevention strategies. The institutions implemented most of the items regarding the core activities of the center and most institutions partially implemented multidisciplinary integration and training programs. The results suggest the need to create better strategies for a non-punitive culture, event notification, and disclosure of results to teams, sentinel event prevention. These strategies together with risk management strategies - safe surgery; safety in prescribing; using and administering medication; encouraging patients and their families to get involved in

their own safety; effective communication; integrating the management processes; encouraging a safe environment; and professional training - can firmly establish the actions of the patient safety center.

A limitation of this study is the small study sample of the patient safety centers to represent the broad scenario of health institutions in São Paulo and, above all, in Brazil, thus preventing the generalization of the obtained information. Furthermore, the questionnaire used to obtain the information was completed by coordinators of the center who, in most cases, had been recently assigned to the task, possibly resulting in response bias.

We hope that this study can contribute to the self-assessment and comparison of health institutions. It may also enrich discussions about the difficulties and conveniences involved in implementing the NSP and contribute to the growth and strengthening of actions and guidelines proposed by the PNSP, thus improving quality in health care institutions.

■ REFERENCES

1. Oliveira CG, Rodas ACD. Postmarketing surveillance in Brazil: vascular catheters: an overview of notifications of adverse events and technical complaints. Ciênc Saúde Coletiva. 2017;22(10):3247-57. doi: https://doi.org/10.1590/1413-812320172210.17612017.

2. Siqueira CL, Silva CC, Teles JKN, Feldman LB. Management: perception of nurses of two hospitals in the South of the State of Minas Gerais, Brazil. Rev Min Enferm. 2015;19(4):919-26. doi: https://doi.org/10.5935/1415-2762.20150071.

3. Agência Nacional de Vigilância Sanitária (BR). Resolução – RDC nº 36, de 25 de julho de 2013. Institui ações para a segurança do paciente em serviços de saúde e dá outras providências. Diário Oficial da União [da] República Federativa do Brasil. 2013 Jul 26; 150(143 Seção 1):32-3.

4. Alabi MA, Mendes VLPS, Pinto KA, Alabi J. [Factors related to patient's fall in a public hospital: perception of nursing coordinators]. Rev Baiana Saúde Pública. 2016;40(supl. 1):168-81. Portuguese. doi: https://doi.org/10.22278/2318-2660.2016.v40.n0.a2674.

5. Agência Nacional de Vigilância Sanitária (BR) [Internet]. Brasília: Anvisa; c2005-2017 [citado 2017 ago 11]. Segurança do Paciente - Relatório dos Estados: eventos adversos: arquivos; [aprox. 1 tela]. Available from: https://www20.ANVISA.gov.br/segurancadopaciente/index.php/publicacoes/category/relatorios-dos-estados.

6. Ministério da Saúde (BR). DATASUS [Internet]. Brasília: Ministério da Saúde; c2005-2017 [cited 2017 Sep 09]. CNES: Estabelecimentos por tipo: Brasil; [aprox. 1 tela]. Available from: http://tabnet.datasus.gov.br/cgi/deftohtm.exe?cnes/cnv/estabbr.def.

7. Azevedo KCC, Alves AMPM, Félix ZC, Viana ACG. Implementation of the patient safety core in a health service. Rev Enferm UFPE online. 2016 [cited 2017 Aug 09];10(12):4692-5. Available from: https://periodicos.ufpe.br/revistas/revistaenfermagem/article/viewFile/11540/13447.

8. Macedo RS. Análise da estrutura organizacional dos Núcleos de Segurança do Paciente em instituições de saúde da Rede Sentinela do município de São Paulo [dissertação]. São Paulo (SP): Escola Paulista de Enfermagem, Universidade Federal de São Paulo; 2017.

9. Macedo, RS. Validação de instrumento de autoavaliação dos Núcleos de Segurança do Paciente. Rev Bras Enferm. Forthcoming 2018.

10. Ruthes RM, Feldman LB, Cunha ICKO. Focus on the customer: an essential tool in management competence in nursing. Rev Bras Enferm. 2010;63(2):317-21. doi: https://doi.org/10.1590/S0034-71672010000200023.

11. Ministério da Saúde (BR). Portaria nº 3.390, de 30 de dezembro de 2013. Institui a Política Nacional de Atenção Hospitalar (PNHOSP) no âmbito do Sistema Único de Saúde (SUS), estabelecendo-se as diretrizes para a organização do componente hospitalar da Rede de Atenção à Saúde (RAS). Diário Oficial da União [da] República Federativa do Brasil. 2013 dez 31[cited 2017 Sep 09];143(253 Seção 1):54-6. Available from: http://bvsms.saude.gov.br/bvs/saudelegis/gm/2013/prt3390_30_12_2013.html.

12. Saura RM, Moreno P, Vallejo P, Oliva G, Álava F, Esquerra M, et al. Diseño, implantación y evaluación de um modelo de gestión de la seguridad del paciente en hospitales de Cataluña. Med Clin (Barc). 2014 [citado 2017 jul 15];143(supl 1):48-54. Disponible en: http://www.elsevier.es/es-revista-medicina-clinica-2-articulo-diseno-implantacion-evaluacion-un-modelo-S0025775314005569.

13. Silva-Batalha EMS, Melleiro MM. Patient safety culture in a teaching hospital: differences in perception existing in the different scenarios of this institution. Texto Contexto Enferm 2015;24(2):432-41. doi: https://doi.org/10.1590/0104-07072015000192014.

14. Kavanagh DT, Saman DM, Bartel R, Westerman K. Estimating Hospital-related deaths due to medical error: a perspective from patient advocates. J Patient Saf. 2017 Mar;13(1):1-5. doi: https://doi.org/10.1097/PTS.0000000000000364.

15. Ministério da Saúde (BR). Anexo 01: Protocolo para a prática de higiene das mãos em serviços de saúde. Brasília: Ministério da Saúde, Anvisa, Fiocruz; 2013 [cited 2017 Sep 16]. Available from: https://proqualis.net/sites/proqualis.net/files/000002428z8pha4.pdf.

16. Sunol R, Wagner C, Arah OA, Shaw CD, Kristensen S, Thompson CA, et al. Evidence-based organization and Patient Safety strategies in European hospitals. Int J Qual Health Care. 2014;26(Suppl 1):47-55. doi: https://doi.org/10.1093/intqhc/mzu016.

17. Kim JY, Jung MG, Kwon MH, Noh SO, Kim HJ. Patient involvement in reducing errors during X-ray imaging in an orthopedic outpatient clinic. J Eval Clin Pract. 2017;23(6):1227-31. doi: https://doi.org/10.1111/jep.12764.

18. Hemesath MP, Santos HB, Torelly SEM, Barbosa AS, Magalhães AMM. Educational strategies to improve adherence to patient identification. Rev Gaúcha Enferm. 2015 dez;36(4):43-8. doi: https://doi.org/10.1590/1983-1447.2015.04.54289.

19. Mira JJ, Navarro IM, Guilabert M, Poblete R, Franco AL, Jiménez P, et al. A Spanish-language patient safety questionnaire to measure medical and nursing students' attitudes and knowledge. Rev Panam Salud Publica. 2015 [cited 2017 Sep 16];38(2):110-9. Disponível em: https://www.scielosp.org/scielo.php?script=sci_arttext&pid=S1020-49892015000700003&lng=en&nrm=iso&tlng=en.

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■ PROMOTION

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